

# AGRICULTURE COUNTRY UPDATES OF VIETNAM

Agriculture Subcommittee Meeting  
Monterrey Mexico, 29 Jan, 2009

# EMISSIONS AND CHARACTERIZATION OF ANIMAL WASTE MANAGEMENT SECTOR

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## ■ Animal Production in Vietnam:

- Animal production in Vietnam is contributing 23% of total agricultural products, consisting of:
  - Pig: around 27 mill. heads,
  - Cattle and Buffalo: around 10 mill. heads,
  - Goats: 1.6 mill. heads,
  - Poultry: 220 mill. heads
- Animals release around 50 mill. tons of manure wastes. Taking into account other wastes, such as waste foods, dead animals, etc, the total livestock wastes is around 73 mill. tons per year
- Most of farms are of small to medium size.

# EMISSIONS AND CHARACTERIZATION OF ANIMAL WASTE MANAGEMENT SECTOR

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## ■ Animal Wastes Management:

- Currently, only 7% of livestock farms are using measures of wastes management;
- Nearly 50% of animal manures are processed by aerobic treatment for producing organic fertilizers;
- A part of the remaining is put into biogas production systems, the rests are discharged into environment;

Up to now, more than 100,000 biogas systems have been built, most of them are of small scale (with financial support from different sources). A number of large systems are constructed in recent years.

Several standardized designs have been developed for each scale/situation of livestock farming.

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# KEY STAKEHOLDERS IN ANIMAL WASTE MANAGEMENT SECTOR

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- Gov. organizations such as:
  - Organizations under Ministry of Agriculture and Rural Development (*Department of Animal Husbandry*): responsible for direction and direct involvement into animal waste management at livestock farms;
  - Organizations under Ministry of Natural Resources and Environment:
    - responsible for State management of environmental protection (*General Dept. of Environment*);
    - provision of guides and consultation in terms of biogas development and environment (*Institute of Strategy and Policy of Natural Resources and Environment*);



# KEY STAKEHOLDERS IN ANIMAL WASTE MANAGEMENT SECTOR

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- Donors/NGO: providing technical and financial supports for implementation of biogas projects in selected areas:
  - At the moment, SNV is the biggest foreign donor in this field and they are working with MARD in direct involvement for construction of biogas in rural areas;
  - Other supports, from WB, M2M, (TMV) help study to set up demonstration model for possible relication
- Domestic institutions/companies: Institute of Energy (MOIT), Agro-Forestry University (HCMC), Danang University of Technology are among the biggest intitutions involving in biogas development in Vietnam. There are several big companies participating in biogas construcitons

# OVERVIEWS OF METHANE RECOVERY POTENTIALS

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- According to calculations of MONRE, the potential biggest sources for biogas production, however, come from agricultural wastes (cultivation wastes), about three times compared with that comes from animal manure.
- Up to near future: the main sources for biogas production come should come from pig and cattle manure wastes.
- Municipal wastes can produce as much as 50% of that come from animal manure wastes.

# OVERVIEWS OF METHANE RECOVERY POTENTIALS

Source	Potential (mill. m <sup>3</sup> )	Tons of Oil equiv. (mill.toe)	Percentage (%)
Animal Manure	2,446.44	1.224	21.05
Cultivation Wastes	7,902.9	3.953	68.00
Organic Wastes	1,275.0	0.637	10.95
<b>TOTAL</b>	<b>11,624.34</b>	<b>5.814</b>	<b>100</b>

# CHALLENGES/PRIORITIES TO METHANE RECOVERY AND USE

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- Environmental protection becomes the great concern to meet requirements of the rural sanitation programs, especially when the livestock population increases:
  - There is not yet detailed regulations on animal wastes management for environ. protection;
  - There is not yet detailed policy addressing advantages when investing into this sector.
- R&D of biogas/compost fertilizer production is encouraged for reducing environmental pollution and effective exploitation of clean energy.

# CHALLENGES/PRIORITIES TO METHANE RECOVERY AND USE

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- Standardize technologies for each concrete conditions of various types of farms in collaboration with research institutions; two technologies will be developed in parallel for small households and medium/large farms
- Develop suitable policies encouraging the investment into animal wastes treatment for environmental protection and biogas production through favor conditions of taxes, loans, land use right, etc. (*Strategy for dissemination of animal wastes treatment technology to 2020*)

# MARKET ASSESSMENT AND REFORM ISSUES

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- The use biogas in Vietnam is still limited, mostly for cooking (95%), lighting, electricity generation in households; there is almost no market yet (for selling-buying);
- We are developing demonstration models of group-based biogas system and community based systems in Ha Tay and Dong Nai provinces;
- Networking of biogas lines within a group/ village is under development as a demonstration model

# COUNTRY STRATEGY (draft)

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- Develop, issue and implement Regulations on Environmental Protection in animal husbandry,
- Development and application of economic tools relating to environmental issues,
- Develop an environmental friendly model of animal husbandry

# COUNTRY STRATEGY (draft)

- Develop a network of biogas constructors/users to disseminate experience and knowledge:
  - facilitating the application of biogas technology for wastes treatment, environmental protection and recovery of clean energy.
  - help the biogas market grow, and enhance development of other technologies using biogas





# COUNTRY STRATEGY



# COUNTRY STRATEGY (draft)

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- Develop biogas market: to diversify application using biogas, thus stimulating biogas construction and development
- Formulation of supporting policies
- Enhance public information, dissemination of biogas technologies for treatment of animal wastes
- Prioritize resources for this sector (mobilize funding from different sources)

**Thank you for your  
attention!**

